

# 1K3/1J3

## Half-Wave Vacuum Rectifier

### Electrical:

Filament Characteristics and Ratings:

	Min.	Av.	Max.	
Voltage (AC) . . . . .	1.05	1.25	1.45	volts
Current at 1.25 volts. . . . .	—	0.2	—	amp
Direct Interelectrode Capacitance (Approx.): <sup>a</sup>				
Plate to filament and internal shield . . . . .		1.6		pf

### Mechanical:

Operating Position . . . . .	Any
Type of Cathode. . . . .	Coated Filament
Maximum Overall Length . . . . .	3-9/16"
Seated Length. . . . .	2-13/16" ± 3/16"
Maximum Diameter . . . . .	1-9/32"
Bulb . . . . .	T9
Cap. . . . .	Small with Tubular Support (JEDEC No. C1-34)

Bases (Alternates):

Intermediate-Shell Octal:

6-Pin, Arrangement 1 (JEDEC Group 1, No. B6-8)

Short Intermediate-Shell Octal with External Barriers:

6-Pin, Arrangement 1 (JEDEC Group 1, No. B6-60)

Basing Designation for BOTTOM VIEW . . . . . 3C

Pin 1 - See Note

Pin 2 - Filament

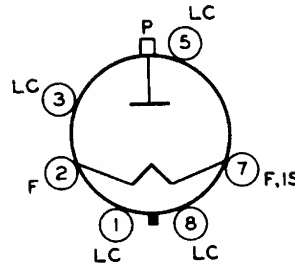
Pin 3 - See Note

Pin 5 - See Note

Pin 7 - Filament,  
Internal Shield

Pin 8 - See Note

Cap - Plate



NOTE: May be used only under conditions specified in Operating Considerations.

### PULSED-RECTIFIER SERVICE

Maximum Ratings, Design-Maximum Values:

For operation in a 525-line, 30-frame system<sup>b</sup>

Inverse Plate Voltage:

Total dc and peak <sup>c</sup> . . . . .	26000 max.	volts
DC . . . . .	22000 max.	volts
Peak Plate Current . . . . .	50 max.	ma
DC Plate Current . . . . .	0.5 max.	ma

### Characteristics:

DC Plate Voltage . . . . .	225	volts
DC Plate Current . . . . .	7	ma



RADIO CORPORATION OF AMERICA  
Electronic Components and Devices  
Harrison, N. J.

DATA 1  
3-64

# 1K3/1J3

---

- a Without external shield.
- b As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.
- c The duration of the voltage pulse must not exceed 15 per cent of one horizontal scanning cycle. In a 525-line, 30-frame system, 15 per cent of one horizontal scanning cycle is 10 microseconds.

## OPERATING CONSIDERATIONS

*Socket Connections.* Socket terminals 1, 3, 4, 5, 6, and 8 may be connected to socket terminal No. 7 or to a corona shield which is connected to socket terminal 7. Socket terminals 4 and 6 may be used as tie points for components at or near filament potential.

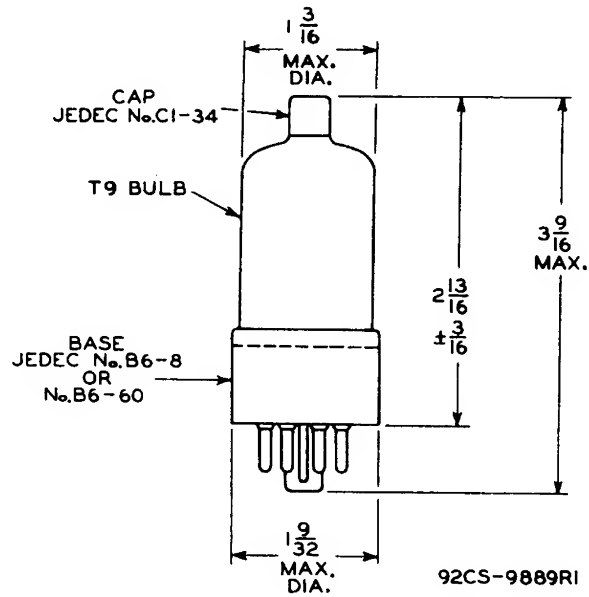
*Measurement of Filament Voltage.* To measure the filament voltage when the filament is at a high dc potential with respect to ground, it is recommended that a simple method utilizing visual comparison of the filament temperature be used. The color temperature of the filament, operating from a pulse-or-rf-power source, may be checked by observing in a darkened room the reflection of the incandescent filament upon the surface of the internal shield. A visual comparison of this color temperature with that obtained when the filament of another 1K3/1J3 is operated from a dc or low-frequency ac supply of 1.25 volts, provides a convenient means for adjusting the amount of excitation to produce 1.25 volts (rms) at the filament terminals.

*The high voltages at which the 1K3/1J3 is operated are very dangerous.* Great care should be taken in the design of apparatus to prevent the operator from coming in contact with these high voltages. Particular care against fatal shock should be taken in the measurement of filament voltage. Under all circumstances, circuit parts which may be at high potentials should be enclosed or adequately insulated.

*X-radiation.* The voltages employed in some television receivers and other high-voltage equipment are sufficiently high that high-voltage rectifier tubes may produce X-radiation which can constitute a health hazard unless such tubes are adequately shielded. Relatively simple shielding should prove adequate, but the need for this precaution should be considered in equipment design.

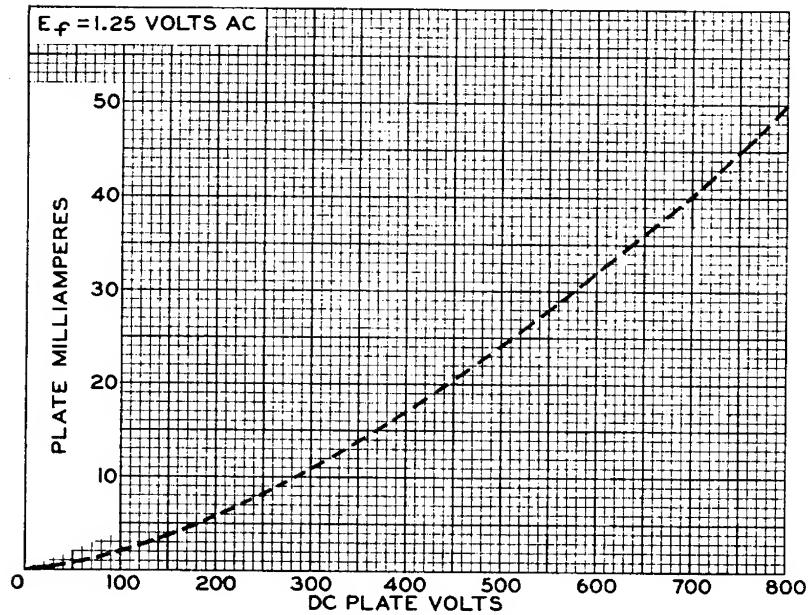


# 1K3/1J3



DIMENSIONS IN INCHES

## AVERAGE PLATE CHARACTERISTIC



92CS-10251



RADIO CORPORATION OF AMERICA  
Electronic Components and Devices  
Harrison, N. J.

DATA 2  
3-64